ABSTRACT

[0043] Reactive geocomposite mats, and their method of manufacture, for treating contaminants in soil or water that allow the passage of essentially non-contaminated water therethrough. The geocomposite mat includes a pre-formed woven or non-woven geotextile, having a thickness of about 6 mm to about 200 mm, and having, a porosity sufficient to receive a powdered or granular contaminant-reactive material, contaminant-sorptive material, or a contaminant-neutralizing material (hereinafter collectively referred to as "contaminant-reactant material" or "contaminant-reactive material") throughout its thickness, or in any portion of the thickness across its entire major surface(s). The powdered or granular contaminant-reactive material is disposed within the pores of the previously formed, high loft geotextile mat to surround the fibers, e.g., by vacuum or vibrating the high loft mat while in contact with the contaminant-reactive material to allow the powdered or granular contaminant-reactive material to flow by gravity into the pores of the previously formed geotextile and vibrational forces. Liquid-permeable cover sheets are adhered to the upper and lower major surfaces of the filled geotextile to prevent the powdered or granular material from escaping from the geotextile during transportation and installation.